

Jonni S. Moore

Positions, Scientific Appointments, and Honors

Perelman School of Medicine at the University of Pennsylvania

1988-1992	Research Associate, Department of Pathology and Laboratory Medicine, University of Pennsylvania School of Medicine
1991-present	Director, Abramson Cancer Center Flow Cytometry and Cell Sorter Facility, University of Pennsylvania School of Medicine
1991-present	Member, University of Pennsylvania Abramson Cancer Center
1992-1996	Research Assistant Professor of Pathology and Laboratory Medicine, University of Pennsylvania School of Medicine
1995-2001	Associate Member, Institute of Human Gene Therapy
1997-2000	Assistant Professor of Pathology and Laboratory Medicine at the Hospital of the University of Pennsylvania, University of Pennsylvania School of Medicine
1997-2016	Director of Clinical Flow Cytometry, Department of Pathology and Laboratory Medicine, Hospital of University of Pennsylvania
1999-2001	Visiting Professor, Department of Clinical Pathology, Faculty of Medicine, Ain Shams University, Cairo, Egypt
2000-2007	Associate Professor of Pathology and Laboratory Medicine at the Hospital of the University of Pennsylvania, University of Pennsylvania School of Medicine
2007-present	Professor of Pathology and Laboratory Medicine at the Hospital of the University of Pennsylvania, University of Pennsylvania School of Medicine
2010-present	Founder, CytoVas, LLC, a Pennovation Company
2016-present	Senior Consultant, Clinical Flow Cytometry, Hospital of the University of Pennsylvania
2016-present	Perelman School of Medicine Lead Diversity Faculty Search Advisor

Other Experience, Appointments and Professional Memberships

1989-present	International Society for Advancement of Cytometry, Member, Resource Managers Task Force(2002-2006), Education Task Force (2002-2008, co-chair 2007-2008); Education Committee(2008-), Leader, Flow Cytometry Content Task Force for Cyto University
1996-present	Great Lakes International Imaging and Flow Cytometry Association, Founding Member, Steering Committee 1996-2010, Program Chair 1999, 2003, Chair, Education Committee 2002-, President 1998-1999, 2002-2003
1998-2005	National Institutes of Health Special Emphasis Panel (SBIR), Hematology 1,2 Study Section, member, 1998-2005; rotating chair 2003-2005
1996-present	International Clinical Cytometry Society, Member, Education Committee, 1999-2006; Chair, Corporate Relations Committee, 2001-2005; Member, Program Committee, 2005-2006; member, Women in Cytometry Committee (inaugural Women in Cytometry Speaker, 2011)
2003	University of Rochester School of Medicine, consultant for flow cytometry resource laboratory
2004-2007	Center for Human Cell Therapy, CBR Institute for Biomedical Research, Harvard University Medical School, External advisory board
2004	University of California at San Diego, Department of Pathology and Cancer Center, Consultant for resource laboratories
2005	University of Alabama at Birmingham, Arthritis and Musculoskeletal Disease Center, consultant for flow cytometry resource lab
2005-2010	External consultant for flow cytometry for Clariant Laboratories, Inc.
2006	University of Michigan, Department of Pathology, consultant for clinical and research flow cytometry

2006-present American Society for Investigative Pathology, member
2007-present Editorial Board, *Cytometry B: Clinical Cytometry*
1984-present American Association of Immunologists
2010-present member, Institute for Immunology, Perelman School of Medicine
2010-2016 member, Jefferson Scholars Selection Committee, University of Virginia
2011-present External Advisor, Flow Cytometry Laboratory, New York University, New York, New York
2017-present External Scientific Advisory Board TME CoBRE, West Virginia University

Honors

2000-present Academy of Clinical Laboratory Physicians and Scientists
2002 Peter C. Nowell Teaching Award
2008 FOCUS Award for the Advancement of Women in Medicine, University of Pennsylvania
2008 College of American Pathologists Outstanding Inspector
2009 David B.P. Goodman, M.D., Ph.D. Leadership Award
Department of Pathology and Laboratory Medicine
2012 The Carleton and Sigrid Stewart Lectureship, Great Lakes International Imaging and
Fluorescence Association
2012 Keynote Speaker Lectureship Award, National Flow Cytometry Course, Bowdoin College,
Maine
2016 Wallace H. Coulter Award for Lifetime Achievement in Clinical Flow Cytometry Practice,
Education and Innovation
2018 ISAC Member Award of the International Society for the Advancement of Cytometry
2022 ISAC Leadership Award

Contributions to Science

1) Early Contributions:

Jonnie Moore developed a cytomics-based approach to understand the role of cytokine networks in cancer in both human and mouse models. Her initial research focused on understanding the cytokine networks implicated in chronic hematological malignancies, particularly B cell chronic lymphocytic leukemia. She also identified a critical pathway of in vivo resistance to apoptosis driven by alterations to both malignant B cell and non-malignant T cell cytokine receptors (i.e., the non-malignant tumor environment).

- a) Nowell PC, Moore JS, Fox FE, Capocasale RJ, Kant JA, Besa EC: Richter's syndrome associated with loss of response to transforming growth factor-beta. Leukemia Res 18: 85-89, 1994. PMID: 8107492
- b) Capocasale RJ, Lamb RJ, Vonderheid EC, Fox FE, Rook AH, Nowell PC, Moore JS: Reduced surface expression of transforming growth factor-beta receptor type II in mitogen-activated T-cells from Sezary patients. Proc Natl Acad Sci USA 92: 5501, 1995. PMID: 7777538 PMCID: PMC41723
- c) Douglas RS, Capocasale RJ, Lamb RJ, Nowell PC, and Moore JS: CLL B Cells Are Resistant to the Apoptotic Effects of Transforming Growth Factor-Beta (TGF-?). Blood 89: 991, 1996. PMID: 9028325
- d) Douglas RS, Pletcher CH Jr, Nowell PC, Moore JS: Novel approach for simultaneous evaluation of cell phenotype, apoptosis, and cell cycle using multiparameter flow cytometry. Cytometry 32: 57, 1998. PMID: 9581625

2) Building on early foundation:

Dr. Moore also expanded the application of cytomics, with a variety of clinical partners, to understanding the biology of heme malignancies, transplant rejection, and stem cell development. Dr. Moore acted as a co-investigator in the studies, contributing to laboratory design, technological approaches and data analysis.

- a) Kreisel D, Petrowsky H, Krasinskas AM, Krupnick AS, Szeto WY, McLean AD, Popma SH, Gelman AE, Traum MK, Furth EE, Moore JS, Rosengard BR: The role of passenger leukocyte genotype in rejection and acceptance of rat liver allografts. Transplantation 73: 1501, 2002. PMID: 12023631
- b) Bantly AD, Gray BD, Berslin E, Weinstein EG, Muirhead KA, Ohlsson-Wilhelm BM, Moore JS: CellVue Claret, a new far-red dye, facilitates polychromatic assessment of immune cell proliferation. Immunological Investigations 36: 581, 2007. PMID: 18161520
- c) Milovanova T, Bhopale V, Sorokina E, Moore J, Hunt T, Hauer-Jensen M, Thom S.: Hyperbaric oxygen stimulates vasculogenic stem cell growth and differentiation in vivo. J Appl Physiol 106: 711-728, 2009. PMID: 19023021 PMCID: PMC2644249
- d) Urtishak KA, Edwards AY, Wang LS, Hudome A, Robinson BW, Barrett JS, Cao K, Cory L, Moore JS, Bantly AD, Yu QC, Chen IM, Atlas SR, Willman CL, Kundu M, Carroll AJ, Heerema NA, Devidas M, Hilden JM, Dreyer ZE, Hunger SP, Reaman GH, Felix CA : Potent Obatoclox cytotoxicity and activation of triple death mode killing across infant acute lymphoblastic leukemia. Blood 121(14): 2689-2703, 2013. PMID: 23393050 PMCID: PMC3617634

3) Expanding Applications:

Dr. Moore was one of the first to use flow cytometry liquid biopsy for biomarker detection, risk stratification and therapeutic efficacy. This required leveraging the limits of cytometry and developing novel computational methods for data analysis. Dr. Moore and collaborators authored several patents related to this research.

- a. Rogers WT, Moser AR, Holyst HA, Bantly AD, Mohler ER 3rd, Scangas G, Moore JS (2008). Cytometric Fingerprinting: Quantitative Characterization of Multivariate Distributions Cytometry Part A 73A: 430 PMID: 18383310
- b. Curtis, A, Zhang, L, Medenilla, E, Gui, M, Wilkinson, P, Hu, E, Giri, J, Doraiswamy, V, Gunda, S, Burgert, M, Moore, J, Edelberg, J, Mohler, E.: Relationship of Microparticles to Progenitor Cells as a Measure of Vascular Health in Diabetic Population. Cytometry, Part B. 78B:329-337, 2010. PMID: 20544836 PMCID: PMC3020670
- c. Kurtzman N, Zhang L, French B, Jonas R, Bantly A, Rogers WT, Moore JS, Rickels MR, Mohler ER 3rd: Personalized Cytomic Assessment of Vascular Health: Evaluation of the Vascular Health Profile in Diabetes Mellitus. Cytometry Part B: Clinical Cytometry 84: 255-66, 2013. PMID: 23740755 PMCID: PMC3812912
- d. Takeshita J, Mohler ER, Krishnamoorthy P, Moore J, Rogers WT, Zhang L, Gelfand JM, Mehta NN. Endothelial Cell-, Platelet-, and Monocyte/Macrophage-Derived Microparticles are Elevated in Psoriasis Beyond Cardiometabolic Risk Factors. J Am Heart Association, 2014. PMID: 24584739 PMCID: PMC3959700
- e. Rogers, W. T., Zhang, L., Welden, S., Krieger, B., Rickels, M., Moore, J. S. and Mohler, E. R. Vascular Health Profile Predicts Cardiovascular Outcomes in Patients with Diabetes. Cytometry Part B 2017; 92B: 258-265. PMID: 26566003, PMCID: PMC4866910
- f. Nolan JP, Moore J. Extracellular vesicles: Great potential, many challenges. Cytometry B Clin Cytom 2016; 90, 324-325. PMID: 27061750.
- g. Bhagwat N, Dulmage K, Pletcher Charles H, Wang L, DeMuth W, Sen M, Balli D, Yee S, Sa S, Tong F, Yu L, Moore JS, Stanger BZ, Dixon EP, Carpenter EL. An integrated flow cytometry-based platform for isolation and molecular characterization of circulating tumor single cells and clusters. Scientific Reports 2018; 8, 5035. Doi: 10.1038/s41598-018-23217-5
- h. Yu L, Silin S, Wang L, Dulmage K, Bhagwat N, Yee S, Sen M, Pletcher C, Moore J, Saksena S, Dixon E, Carpenter E. An integrated enrichment system to facilitate isolation and mononuclear characterization of single cancer cells from whole blood. Cytometry A 2018; 93(12), 1226-1233. DOI: 10.1002/cyto.a.23599
- i. Habertheuer, Andreas; Ram, Chirag; Schmierer, Maggie; Chatterjee, Shampa; Hu, Robert; Freas, Andrew; Zielinski, Patrick; Rogers, Wade; Silvestro, Eva M; McGrane, Michael; Moore, Jonni S; Korutla, Laxminarayana; Siddiqui, Sarmad; Xin, Yi; Rizi, Rahim; Qin Tao, Jian; Kreisel, Daniel; Naji, Ali; Ochiya, Takahiro; Vallabhajosyula, Prashanth. Circulating Donor Lung-specific Exosome Profiles Enable Noninvasive Monitoring of Acute Rejection in a Rodent Orthotopic Lung Transplantation Model. Transplantation 2022;104(4):754-766.PMID 33993180

4) Focused on Innovating for the Future:

Dr. Moore is at the forefront of deep phenotyping cytometry, coupled with biocomputational modeling. Her lab focuses on cancer, cardiovascular disease, vaccine responses and transplantation. Access to prototypical instrumentation and collaborations with research consortia (like the Parker Institute for Cancer Immunotherapy) provide her lab with the access and opportunity to utilize mass data in cell-based analysis.

- a. Bhagwat N, Dulmage K, Pletcher Charles H, Wang L, DeMuth W, Sen M, Balli D, Yee S, Sa S, Tong F, Yu L, Moore JS, Stanger BZ, Dixon EP, Carpenter EL. An integrated flow cytometry-based platform for isolation and molecular characterization of circulating tumor single cells and clusters. *Scientific Reports* 2018; 8, 5035. Doi: 10.1038/s41598-018-23217-5
- b. Yu L, Silin S, Wang L, Dulmage K, Bhagwat N, Yee S, Sen M, Pletcher C, Moore J, Saksena S, Dixon E, Carpenter E. An integrated enrichment system to facilitate isolation and mononuclear characterization of single cancer cells from whole blood. *Cytometry A* 2018; 93(12), 1226-1233. DOI: 10.1002/cyto.a.23599
- c. Kurtzman N, Zhang L, French B, Jonas R, Bantly A, Rogers WT, Moore JS, Rickels MR, Mohler ER 3rd: Personalized Cytomic Assessment of Vascular Health: Evaluation of the Vascular Health Profile in Diabetes Mellitus. *Cytometry Part B: Clinical Cytometry* 84: 255-66, 2013. PMID: 23740755 PMCID: PMC3812912
- d. Takeshita J, Mohler ER, Krishnamoorthy P, Moore J, Rogers WT, Zhang L, Gelfand JM, Mehta NN. Endothelial Cell-, Platelet-, and Monocyte/Macrophage-Derived Microparticles are Elevated in Psoriasis Beyond Cardiometabolic Risk Factors. *J Am Heart Association*, 2014. PMID: 24584739 PMCID: PMC3959700
- e. Rogers, W. T., Zhang, L., Welden, S., Krieger, B., Rickels, M., Moore, J. S. and Mohler, E. R. Vascular Health Profile Predicts Cardiovascular Outcomes in Patients with Diabetes. *Cytometry Part B* 2017; 92B: 258-265. PMID: 26566003, PMCID: PMC4866910
- f. Yu L, Silin S, Wang L, Dulmage K, Bhagwat N, Yee S, Sen M, Pletcher C, Moore J, Saksena S, Dixon E, Carpenter E. An integrated enrichment system to facilitate isolation and mononuclear characterization of single cancer cells from whole blood. *Cytometry A* 2018; 93(12), 1226-1233. DOI: 10.1002/cyto.a.23599
- g. Padrón LJ, Maurer DM, O'Hara MH, O'Reilly EM, Wolff RA, Wainberg ZA, Ko AH, Fisher G, Rahma O, Lyman JP, Cabanski CR, Yu JX, Pfeiffer SM, Spasic M, Xu J, Gherardini PF, Karakunnel J, Mick R, Alanio C, Byrne KT, Hollmann TJ, Moore JS, Jones DD, Tognetti M, Chen RO, Yang X, Salvador L, Wherry EJ, Dugan U, O'Donnell-Tormey J, Butterfield LH, Hubbard-Lucey VM, Ibrahim R, Fairchild J, Bucktrout S, LaVallee TM, Vonderheide RH. Sotigalimab and/or nivolumab with chemotherapy in first-line metastatic pancreatic cancer: clinical and immunologic analyses from the randomized phase 2 PRINCE trial. *Nat. Med* 2022: epub ahead of print; doi: 10.1038/s41591-022-01829-9; PMID 36662283.